



Special points of interest:

- Four NWS Binghamton Meteorologists Win Prestigious AMS Award
- Severe Weather is expected today...What's going on inside your local NWS office?
- Try the Weather Word Search! (p. 13)



Volume 2 Issue 1

Spring, 2003

From the Meteorologist In Charge

Every day and night, NWS Binghamton, with the help of our partners, is working hard to provide our customers with the best possible weather forecasts and warnings. Whether it be a family making weekend plans, a general aviation pilot planning a flight, or an emergency official dealing with a chemical or biological agent release, accurate weather forecasts benefit our economy and our safety in many ways.

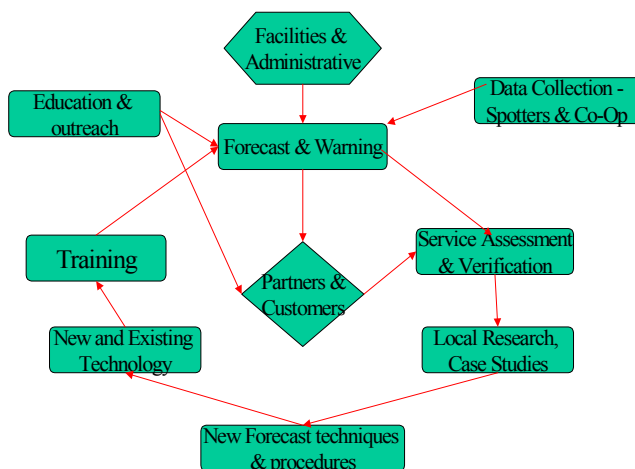
For this reason, we are always striving for excellence in the services we provide. Following every major weather event, we perform a service assessment to evaluate how we performed. This involves gathering observed data and comparing to forecasts to calculate verification statistics. It also involves talking to customers to gauge satisfaction and identify problems. We also do scientific case studies following events, to examine all the computer model and observed data for signals that will help us forecast better in the future.

Some of our case studies lead to more in-depth local research on a particular forecast problem. In Binghamton, we've done research on banded heavy snow, finger lake snow bands, tornado versus flash flood storm environments, and fog formation to name a few. These stud-

ies lead to the development of new forecast techniques and procedures.

Another way we continue to improve is through the introduction of new technology. An example is the introduction of our WSR-88D Doppler. This radar gave us the ability to examine the structure of storms in ways never before possible. The Doppler processor allows us to identify which storms are rotating and most likely to produce a tornado. On May 31 and June 2, 1998 this information enabled us to accurately warn for the tornadoes that struck central New York and northeast Pennsylvania. The radar also estimates precipitation and on May 28, 2002 it gave us the data needed to issue a warning (continued on p. 5)

NWS Binghamton "Striving For Excellence"



In This Issue...

Spring Is In the Air	2
A Day In The Life	3
The Long Cold Winter	4
Looking Ahead	5
Flash Floods	6
Bear Creek Flash Flood	6
What An Honor!	7
Looking Back	8
Lightning Safety	10
Spotter's Corner	12

Spring Is In The Air! (Just look between the flakes)

After a long winter many of us are starting seeds and anxiously planning our gardens. Whether you plan to garden in containers or in the ground, it is important you pay attention to frost potential in the spring.

Your National Weather Service office in Binghamton serves you by issuing **Frost Advisories** and **Freeze Warnings** when temperatures are expected to be cold enough to endanger plants. A Frost Advisory is issued when temperatures are expected to fall to between 33 and 36 degrees within 12 to 24 hours. A Freeze Warning is issued when temperatures are expected to fall to 32 degrees or colder. It is important to realize an overnight low temperature of 36 degrees may translate to a near

ground temperature of 32 degrees where plants are growing. This is due for the tendency of cold, dense air to sink toward ground level.

Frost Advisories and Freeze Warnings will only be issued during your community's "growing season," which is why you won't see a Freeze Warning issued in March in our area. Your growing season is loosely defined by the period when the potential for cold temperatures is minimal, and the soil has warmed enough to spur growth in plants. According to the United States Department of Agriculture, the average last frost dates for upstate NY and northeast PA are about the second or third weeks of May. However within the Finger Lakes very close to Lake Ontario, the average last frost date is as early as May 1.

These dates are rough guidelines only. In any given year the last frost date can vary by plus or minus 2 weeks. And for any given community, the average last frost date can vary significantly. When planting a garden it pays to know your community's climatology. Experienced gardeners in your neighborhood are often the best source for this information.

I recently studied the average last frost date variations across upstate NY and northeast PA, using our robust climatological record provided by our network of cooperative observers. The following are the percentage of days the minimum temperature is 32 degrees or less for various dates and locations across our region:

	May 10 - May 19	May 20 - May 29	May 30 - Jun 8
Auburn NY	2%	1%	0%
Corning NY	7%	6%	0%
Cortland NY	6%	4%	Less then 1%
Cooperstown NY	18%	13%	5%
Walton NY	19%	14%	13%
Utica NY	8%	5%	1%
Towanda PA	7%	5%	1%
Montrose PA	9%	7%	Less then 1%
Canton PA	11%	8%	1%
Freeland PA	4%	3%	Less then 1%

For instance, 18% of all days in Cooperstown NY reach 32 degrees or colder between May 10 and May 19. The preceding table shows minimal chance for frost or freeze at Auburn and Corning by May 30, yet significant risk remains at Walton and Cooperstown. Knowing your own climatology goes a long way in determining the safety of keeping plants outdoors in May and early June. It will greatly aid you in planning your planting dates. Elevation, proximity to bodies of water, and air drainage all play roles in affecting typical temperature ranges.

Having a backup plan is important when dealing with an unexpected cold spell. I suggest the following:

- 1) Watch for Frost or Freeze statements from the National Weather Service. These are generally issued 12 to 24 hours in advance.

Continued on p. 9

A Day In The Life Of A Severe Weather Forecaster...

The severe weather season has arrived in New York and Pennsylvania. This is the SkyWarn spotter's most active time, and during severe weather, the Weather Forecast Office(WFO) in Binghamton is also an extremely active place. So, what goes on in the WFO during a severe weather event? And, how do spotter reports fit into that picture?

Planning for severe weather begins 24-48 hours prior to the event. National Weather Service (NWS) meteorologists are always alert for clues to possible severe weather. Frequently, computer models, and an understanding of the atmosphere, allow us to spot the ingredients for severe weather development a day or two in advance. If severe weather is anticipated for

the following day, the lead forecaster will arrange for additional staffing, and may issue a Severe Weather Outlook, depending on the expected severity of the storms, and the confidence level of the forecast.

On the day of the anticipated severe weather, forecasters on the midnight shift will begin to address the severe weather threat. They may include the possibility of severe storms in the zone

forecast, or may issue or update the Severe Weather Outlook. Also, they will issue the daily Hazardous Weather Outlook, to alert Emergency Managers, SkyWarn Coordinators, and others to the severe weather potential.

As the day goes on, the forecasters monitor the weather for signs of storm development. They use satellite, radar, surface, and upper air observations to look for areas of potential severe storm development. If conditions are favorable for severe storms, the Severe Storms Prediction Center in Norman, Oklahoma, will issue a watch.

When a watch is issued, the WFO goes into "severe weather mode." First, the watch must be sent to the public, including via NOAA Weather Radio (NWR). Next, the Hazardous Weather Outlook, will be updated to alert Emergency Managers, SkyWarn coordinators, and SkyWarn spotters.

Once the watch is "on the street", the focus shifts to monitoring the weather situation, and issuing warnings, if necessary. Usually, there will be 5 to 7 forecasters on duty in the WFO during severe weather. All but two of them (responsible for keeping our routine aviation and public forecast current) will have specific severe weather responsibilities. One person will act as "coordinator", making sure warnings are properly issued, keeping track of the status of the warnings and watching the "big picture". Another person will continuously monitor the radar and make warning decisions. And, still another person will prepare and issue the warnings when they are needed. Last, but certainly not least, one or two people will be responsible for securing ground truth, and answering the phones.

Ground truth is just that, the truth of what's happening on the ground. All of the technology we use can give us a good idea of what's going on, but we're in Binghamton, we can't know for sure what's happening in Utica, NY or Scranton, PA. That's why spotters are so important. We do issue many warnings based on the information we have here at the office, but we can issue a more precise warning, with a higher level of confidence, if we have a spotter report.

Once we decide to issue a warning, we act quickly. We have a software package called WarnGen, short for Warning Generation. WarnGen allows us to quickly plot the path of the storm as an overlay on the radar image. WarnGen will then determine the future path of the

storm based on its previous movement. With the click of a button, we can then generate the warning text, including: the storm's current location and movement, the projected path, and specific threats posed by this storm. The warning process, from warning decision until the alert tones are sent over NWR, takes around a minute.

Occasionally, a Severe Weather Statement is issued to update or cancel current warnings. Also, any

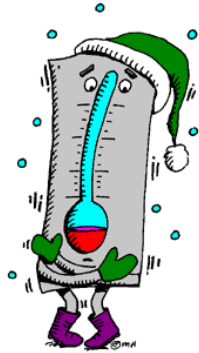
spotter information on the edge of our county warning area, will be relayed to the appropriate adjacent WFO, where it will be used in warning decisions for that area. During the course of the event, the WFO also issues Local Storm Reports(LSR). They are lists of severe weather and damage reported to the WFO. The LSR is useful to emergency managers, the media, and adjacent WFOs during the severe weather event. (continued on p. 11)

"National Weather Service meteorologists are always alert for clues to possible severe weather."



The LOOOONG Cold Winter

As you all know this winter has dragged on with the cold and snow for longer than usual. This is especially true considering that last winter was the warmest winter in the last 50 years by far. (Meteorological winter is defined as December, January, and February.) According to the Northeast Regional Climate Center in Ithaca, NY the state of Pennsylvania as a whole finished this winter as the 13th coldest



"Most of the major storms fell around the holidays, with storms on Christmas, New Year's, and January 4th"

since 1895. New York state finished the winter as the 20th coldest since 1895. Looking at our three main stations; Binghamton airport finished this winter as the fourth coldest (20.1F), while the Syracuse airport and the Wilkes-Barre/Scranton airport both finished tenth coldest (23.1F and 24.8F respectively). All three stations have just over fifty years of records. Also all three stations had temperatures ten to eleven degrees colder this winter compared to last winter. Due to the average colder temperatures and the lack of a long thaw, the snow stayed on the ground longer. Snow amounts are at or above normal for the season. As of March 15th Binghamton had 104.4 inches of snow which ranked it as the twelfth snowiest. Syracuse had 144.8 inches, which is the

eleventh snowiest season. Snow amounts are not measured at the Wilkes-Barre/Scranton airport. Again these rankings are based on the last fifty years. Precipitation (rain and melted snow) for both Pennsylvania and New York state ended up being around normal for the winter.

The number of storms has been at or a little above normal. Most of the major storms fell around the holidays, with storms on Christmas, New Year's, and January 4th. The first major storm was a freezing rain event for the Upper Susquehanna Region, the Catskills, and the western Mohawk Valley on November 16-17. This caused a lot of power outages across the higher elevations. For the larger cities this event was mostly rain. Another ice storm affected northeast Pennsylvania and Sullivan County in New York on December 11-12. Freezing rain fell mostly during the afternoon and evening of the 11th. The freezing rain changed to heavy wet snow during the evening and continued into the next day. The snow amounts were 4 to 10 inches along a narrow band from Wyoming and southern Susquehanna County east through central Wayne County into northern Sullivan County, NY. The next storm was the Christmas snowstorm. This affected the entire area with up to THREE feet of snow. The heaviest snows were in Otsego, Delaware, and northern Sullivan Counties. The New Year's Day ice storm was the next event. This had the greatest affect across the twin tiers into the Catskills. This was an event where winds from the north brought

surface temperatures below freezing. This caused the rain to freeze when it hit the ground and other surfaces. Once again the higher elevations had the most ice. The next storm was another nor'easter that affected all of northeast Pennsylvania and central New York on the fourth of January. The one to two feet of snow across the twin tiers into the Catskills and Mohawk Valley, on top of the ice that was still in the trees and wires from the previous storm caused numerous power outages. Other locations had lesser but still significant amounts of 6 to 14 inches. The next and hopefully last major storm of the cold season was on February 16-17. Most locations received 6 to 12 inches of snow for this storm. A few locations had up to two feet of snow in northeast Pennsylvania and the Catskills of New York. Many more smaller storms occurred throughout the winter. Overall the winter was snowy and cold but not outstanding. Compared to the last two mild winters it was quite a change!

Ted Champney
Meteorologist



From The MIC (continued from p. 1)

two hours in advance of major flash flooding on Bear Creek in Luzerne County, Pennsylvania.

Meteorological science continues to advance every year. To keep up with the latest advances, our staff participate in extensive training activities each year. These include conferences, workshops, and web-based training. In addition, we now have a Weather Event Simulator that can play back archived weather events from around the country. The

simulator lets the forecaster practice issuing forecasts and warnings for a weather event and then get immediate feedback on the quality of the results. In this way, a new techniques can be learned and forecasters can experience unusual or rare events as never before possible.

Everything I've talked about contributes to our effort to strive for excellence. It all revolves around a continual effort to improve the products and services we provide. Many of you are our partners in the provision of weather services. As spotters or

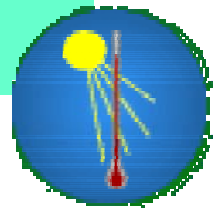
local officials, we rely on you to help gather real-time information on hazardous weather and relay it to our office. We also depend on you to help get accurate information out to those needing it to make critical decisions. Together, I hope we can continue to strive for excellence, providing customers with the best weather forecasts and warnings possible today.

Peter Ahnert
Meteorologist in Charge

For All Your Weather Needs anywhere in the U.S.A...visit the National Weather Service Web Site at www.weather.gov

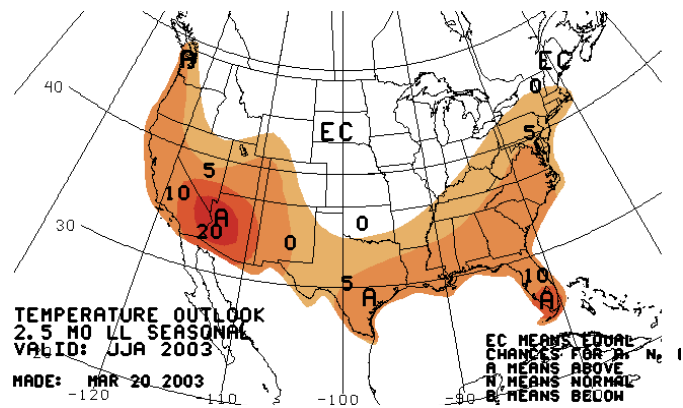


Looking Ahead to Summer...



The official summer outlook for temperature and precipitation has been released by the National Weather Service's Climate Prediction Center. Temperatures this summer are expected to be slightly above normal with precipitation averaging close to normal. For central New York and northeast Pennsylvania, the average high temperatures during the height of summer range from the mid to upper 70s over the higher elevations to the lower 80s in the valleys. Nighttime lows range from the mid 50s to lower 60s. Most precipitation in the summer comes from thunderstorms. The average rainfall for the summer months is generally around 10 to 12 inches.

Dave Nicosia
Warning Coordination Meteorologist



Flash Floods...The NUMBER ONE Weather Related Killer

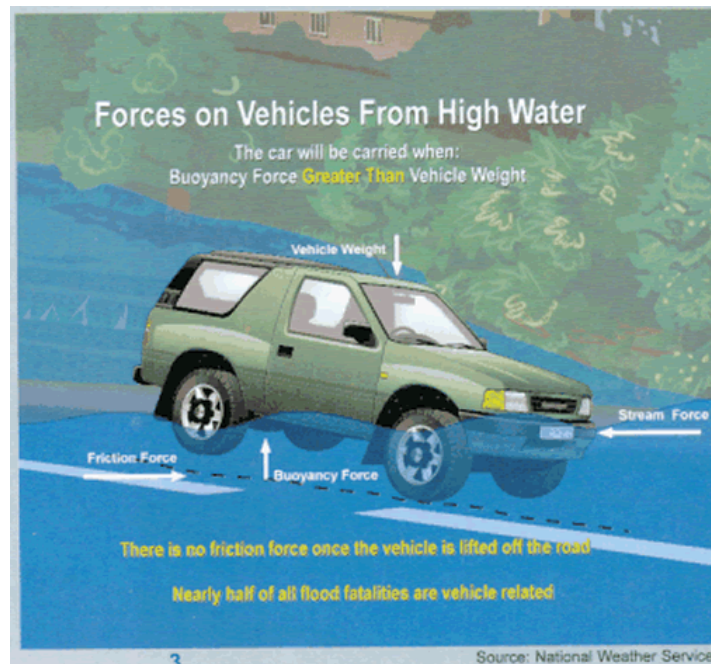
"Floods, especially flash floods, kill more people each year than tornadoes, hurricanes, thunderstorms or lightning."

A flash flood is a rapid rise of water (generally 6 hours or less) along a stream or low-lying urban area. Most flash floods occur due to a combination of heavy rain, dam break, levee failure, rapid snowmelt, and ice jams. Also, heavy rain falling on steep terrain can weaken soil and cause mud slides, damaging homes, roads and property. Flash floods can be produced when slow moving or multiple thunderstorms occur over the same area.

Floods, especially flash floods, kill more people each year than tornadoes, hurricanes, thunderstorms or lightning. Almost half of all flash flood fatalities occur in vehicles. Many people do not realize that two feet of water on a bridge or highway can float most vehicles. If the water is moving rapidly, the car, truck, or SUV can be swept off the bridge and into the creek. Also, water can erode the road bed creating unsafe driving conditions. Underpasses can fill rapidly with water, while the adjacent roadway remains clear. Driving

into a flooded underpass can quickly put you in 5-6 feet of water. Many flash floods occur at night when flooded roads are difficult to see.

From NOAA Publication
Floods The Awesome Power



Bear Creek Flash Flood

On May 28, 2002 a severe flash flood struck the small community of Bear Creek in Luzerne County Pennsylvania after back building thunderstorms dumped 5 to 9 inches of rain in a four hour period over this small basin. This was an extremely rare event with a 1 in 100 year return period. NWS Binghamton issued a Flash Flood Warning for this area 72 minutes before initial flooding began and approximately two hours before major flooding began. This significantly exceeded the NWS flash flood lead time goal of 42 minutes.

Pennsylvania Emergency Management Agency Operations Director, John Bahnweg, stated on the day after the event:

"You (the Binghamton Weather Forecast Office) definitely saved lives that day as massive flooding occurred on the Bear Creek."



In addition to issuing the warning, the office telephoned the emergency management office to advise them that rapid and very serious flash flooding was expected in the Bear Creek area. The county later expressed great

(Continued on next page)

Bear Creek Flash Flood (continued from previous page)

appreciation for this heads up call since it advised them of the seriousness of the situation and gave them the lead time they needed to respond effectively.

As a result, county equipment and rescuers were mobilized to the scene prior to the major flooding, getting barricades out and preparing for swiftwater rescues and evacuations. The severe flooding impacted numerous roads, homes and bridges in the area. The Northeast Extension of the Pennsylvania Turnpike had to be closed due to mudslides and flooding. Numerous homes were also flooded as waters rapidly engulfed them in the village of Bear Creek. Many people were trapped by the flood waters and had to be rescued from the roofs of their flooded homes. As a result of being mobilized early, twenty-three patients at a nursing home were evacuated before being cut off by flood waters and all helicopter and boat rescues of stranded residents were successfully completed before dark. A school was able to recall school buses and hold children overnight until flooding subsided. There was only one injury (a woman trying to drive home over flooded roads). One hundred structures sustained damage totaling 5 million dollars.

This flash flood warning was issued based, not only on radar estimates of rain that had fallen, but on mesoscale precipitation forecasts. These forecasts identified conditions supporting the formation of new thunderstorm cells capable of producing additional heavy rain behind existing storms tracking across the same area. A meteorological analysis of the flood can be found on our web page at <http://www.erh.noaa.gov/er/bgm/May28/May28.htm> and additional photos at <http://www.erh.noaa.gov/er/bgm/bearcreek/index.html>.

Peter Ahnert
Meteorologist In Charge

What An Honor!

Four National Weather Service meteorologists received the 2003 Award for Exceptional Specific Prediction presented by the American Meteorological Society, the nation's leading professional society for scientists in the atmospheric and related sciences. The award was given for their work in providing emergency management officials with accurate and timely warnings for the unusual outbreak of severe weather during 31 May-2 June 1998. The meteorologists are Raymond H. Brady, Michael L. Jurewicz, and David Morford, all forecasters at the National Weather Service (NWS) Office in Binghamton, N.Y., and Jeff. S. Waldstreicher, deputy chief of the Scientific Services Division at the NWS Eastern Region in Bohemia, N.Y. The meteorologists were all on duty during a severe weather outbreak that ranks among the worst in central New York and northeast Pennsylvania history in more than 50 years. During May 31 and June 2, 1998, 19 tornadoes occurred resulting in millions of dollars in damages and two fatalities. These outbreaks were exceptional for an area that averages 2.1 tornadoes per year. The four forecasters made critical decisions that resulted in extremely timely severe weather and tornado warnings that saved many lives. The team also

made extraordinary efforts to coordinate with emergency managers and utility managers, two groups that are highly impacted by severe weather.

Brady was the forecaster on duty prior to both of the events. He issued severe weather outlooks and thunderstorm potential statements describing the potential threat well in advance. Jurewicz was the radar operator/warning decision maker on May 31st analyzing the storms on radar and providing guidance for the warnings. On June 2nd, Morford was the radar operator/warning decision maker, verifying the severe weather events and warnings. The average lead time for the tornadoes was 20.5 minutes on June 2nd, well above the national average. Public forecaster Waldstreicher also oversaw the radar operations on June 2nd recognizing and verifying storms as they approached the area. Their work has earned numerous awards and recognitions from government officials at the local, state and national level.

The Exceptional Specific Prediction Award was presented February 12 at the 83rd Annual AMS Meeting in Long Beach, California.

Peter Ahnert, MIC



Brady



Jurewicz



Morford



Waldstreicher

Looking Back...The May 31st, 1998 Tornado Outbreak

It was a fairly tranquil Sunday morning, with a mild breeze developing and just a few clouds scattered across the sky after sunrise. At that time, on this late spring morning in 1998, there appeared to be little sign of what was to come later that day. Already by then, however, the National Weather Service in Binghamton, NY was advising the populace of central New York and northeast Pennsylvania about the development of severe thunderstorms and possible tornadoes that afternoon and evening.

As we now know, May 31, 1998 will go down in history as one of the most prolific severe weather days for New York State and Pennsylvania. An unusual combination of high instability and strong wind shear existed in the atmosphere across much of the northeastern United States on that day. As a strong cold front approached later that afternoon and interacted with a warm, humid air mass in place, thunderstorms formed. These storms tapped into the unstable and

highly sheared conditions to become, in several instances, tornadic supercells.

A total of 15 confirmed tornadoes touched down in central New York and northeast Pennsylvania during the late afternoon and early evening hours. Of those 15 twisters, 3 of them were rated F3 intensity on the Fujita Scale. In this rating scale, intensities of F0 through F5 (F0 being the least intense and F5 the most damaging) are assigned based on the character, patterns, and severity of the damage path. Maximum wind speeds of 150 to 200 mph can generally be expected in tornadoes of F3 intensity.

Perhaps the single most notable tornado on this day was one that was on or near the ground for more than an hour and cut a damage path across the southern tier of New York that was around 60 miles long! At its strongest point over southern Broome and Delaware counties, it reached F3 intensity and inflicted serious damage on several structures as shown by the following pictures.



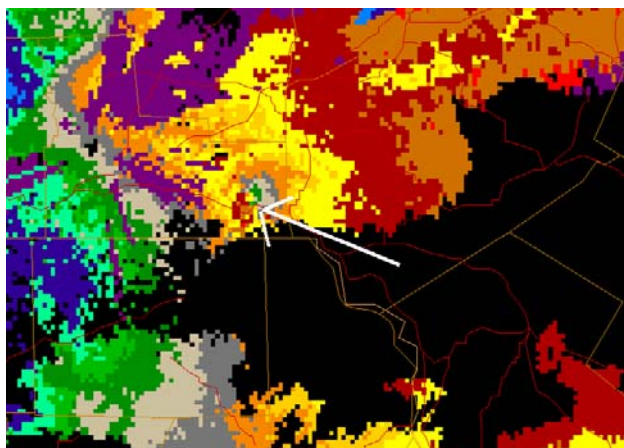
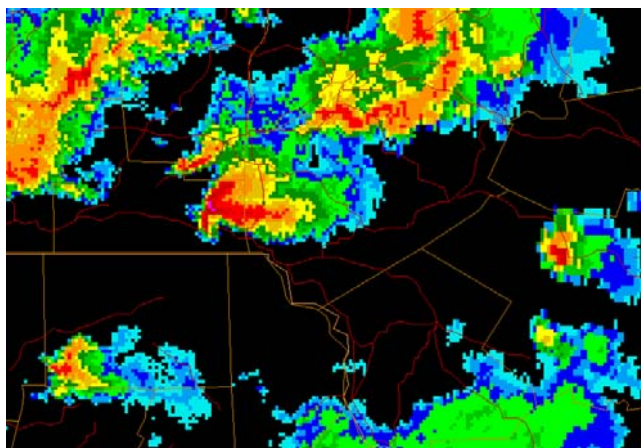
All in all, the tornadoes caused an estimated 5 to 10 million dollars in damages across the region. There were 34 reported injuries, but no fatalities. The Binghamton National Weather Service Office issued nearly 70 severe thunderstorm and tornado warnings on that day. The average lead-time for the tor-



nado warnings was about 25 minutes. This advanced warning likely went a long way towards preventing any deaths. The following images are examples of what the tornadoes looked like from a radar perspective. The graphic on the right side shows a small area of bright green (continued on next page...)

May 31st Tornado Outbreak continued from previous page

pixels immediately next to dark red ones over southeastern Broome county. This is indicative of strongly rotating winds inside the tornado.



Michael L. Jurewicz, Sr.
Meteorologist

Spring...continued from p. 2

- 2) Talk to experienced gardeners in your neighborhood. When do they generally find it safe to start their gardens?
- 3) Consider container gardening. It is easier to bring containers indoors when the risk of frost or freeze suddenly presents itself.
- 4) Have a method for protecting plants. Using cutout plastic milk jugs, old buckets, and large plastic containers are just some of the methods gardeners utilize to create mini green houses for their plants. Others use floating row covers. Gardeners may consider constructing or purchasing a cold frame to protect plants from unexpected cold spells. Just make sure you remove these mini greenhouses during the morning to prevent plants from over heating under the powerful spring sun.

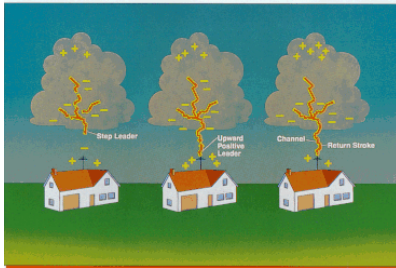
Above all use common sense when starting your garden. If the current weather pattern is for temperatures to trend colder than normal, wait a little longer than your average planting date just to be safe. Enjoy the coming of spring and happy gardening in 2003!

Dan Padavona
Meteorologist



Lightning- The Underrated Killer!

How Lightning Forms



Lightning results from the buildup and discharge of electrical energy between positively and negatively charged areas. Rising and descending air within a thunderstorm separates these positive and negative charges. Water and ice particles also affect charge distribution.



A cloud-to-ground lightning strike begins as an invisible channel of electrically charged air moving from the cloud toward the ground. When one channel nears an object on the ground, a powerful surge of electricity from the ground moves upward to the clouds and produces a visible lightning strike.

Remember, if you can hear thunder - you are close enough to be struck by lightning!

Lightning Safety Rules

- Postpone outdoor activities if thunderstorms are imminent. This is your best way to avoid being caught in a dangerous situation.
- Move to a sturdy building or car. Do not take shelter in small sheds, under isolated trees, or in convertible automobiles. Stay away from tall objects such as towers, fences, telephone poles, and power lines.
- If lightning is occurring and a sturdy shelter is not available, get inside a hard top automobile and keep the windows up. Avoid touching any metal.
- Utility lines and metal pipes can conduct electricity. Unplug appliances not necessary for obtaining weather information. Avoid using the telephone or any electrical appliances. Use phones **ONLY** in an emergency.
- Do not take a bath or shower during a thunderstorm.
- Turn off air conditioners. Power surges from lightning can cause serious damage.



Lightning- The Underrated Killer!

If Caught Outdoors and No Shelter Is Nearby

- Find a low spot away from trees, fences, and poles. Make sure the place you pick is not subject to flooding.
- If you are in the woods, take shelter under the shorter trees.
- If you feel your skin tingle or your hair stand on end, squat low to the ground on the balls of your feet. Place your hands over your ears and your head between your knees. Make yourself the smallest target possible and minimize your contact with the ground. DO NOT lie down.
- If you are boating or swimming, get to land and find shelter immediately!



30/30 Lightning Safety Rule

Go indoors if, after seeing lightning, you cannot count to 30 before hearing thunder. Stay indoors for 30 minutes after hearing the last clap of thunder.

A Day In The Life...continued from p. 3

Once the threat of severe weather ends, our job is not finished. We must notify the public when a watch is cancelled, cleared, or has expired. We also update the Hazardous Weather Outlook, letting everyone know they can "stand down." Next, we create a composite LSR including all reports received, during and after the event. We also field calls

from the media about the event, and plan any damage surveys.

Severe weather events are a busy time at a WFO, but protecting life and property is the most important mission of the NWS. We are proud of our ability to achieve that mission, but we are indebted to the SkyWarn spotters, emergency managers, and public safety offi-

cials, who provide us with the vital information to make our warnings reflect reality.

Michael Cempa
Meteorologist

Spotter's Corner

Hello Spotters! It looks like the record setting cold of winter 2002-2003 is finally starting to fade so it's time to start thinking about the SKYWARN program.

In this new season, I'd like to again encourage as many ARES leaders, club managers, and group leaders to contact me to schedule a SKYWARN training class. We want to significantly increase our SKYWARN membership this year. So, please bring up SKYWARN during the "new business" section of your next club meeting and discuss a class for your club.

We try to keep our SKYWARN show fresh so we have again completely revised the Basic Spotter class. We have included several exciting and instructive video clips. The new presentation is in Power Point which allows us to include the video right within the show. So once again, even if you have been to SKYWARN training before, this class will be new to you.

Progress has been slow on our new tower for SKYWARN communications. We have purchased the tower, and it is partially assembled but it needs to be erected. The base for the tower is ready, and conduit is in place for the new cable that has been purchased. A new antenna is ready to go. The antenna rotor on the old tower needs to come down and be serviced, so we may be without a directional antenna for a time, but this will not be done until the new tower and antenna are in place. We hope to have everything in place before the end of

the summer as the maintenance building is now finished and presents us with some coverage problems to the north when we use our old tower. Also, the new water storage tank is about to go up and will present us with coverage problems to the southeast.

The new tower and antenna should overcome these difficulties, and provide us with access to parts of the Binghamton County Warning Area that we couldn't reach before.



I want to thank everyone who participated in the SKYWARN Recognition Day. The SRD was recognized by the ARRL and was organized to practice long distance and local communications, and to bring attention to the SKYWARN program. It was a resounding success!

It will be interesting to see what the spring and summer severe weather season bring us. The large amount of water stored in the snow pack has us concerned about flooding, but beyond that, it is difficult to say what kind of SKYWARN season awaits us. In any event, now's a good time to check your radios and antennas, and to be sure you have the correct frequencies programmed. Review your spotter guides and your local SKYWARN net procedures. The first severe weather event and SKYWARN activation will be here before we know it, so lets be prepared!

Thanks and 73,
Dave Morford KB2TTT
NWS Binghamton SKYWARN Coordinator



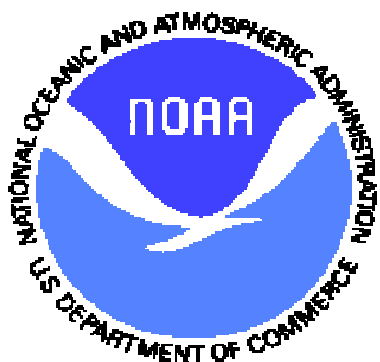
Weather Word Search

U D Y S N T T B C A B L C Z T V R W O O
 H O A S A U O S Z L E H Z H T A R W M X
 S O E C X T R R I S S N G U D U Y A D F
 W L A F H X E Z N G E U I A H W E R Y T
 M F I O X N Z L F A O Y R H R Y D N E D
 K H P S I A E L L R D L P G S Z T I E R
 T S R A R I J I D I M O O G Q N Q N T M
 D A R D U C T A T E T U U R W B U G A C
 K L Q F O N C H N O S E M E O Y T S M C
 U F U I F D D A J Z N R K I D E E Z I L
 T L P Z A F C A W G O F C M B Y T P L J
 M S U F V I X Q V R W Y Z S R H E E C T
 U I O Z R P T H Y J S T H U N D E R M R
 T U S R F V L I G H T N I N G Z C O P N
 H A U B F B P J G K O C M S P G G Q T D
 R H C T A W J S Y M R H X L K N R L G K
 V V X N J N Z D N M M A N E E X E M C O
 L T S A C E R O F J K Q F E Z Z I O O Q
 M Y D V F H P G D T E F Y T I D I M U H
 Y M E F F O G B J U Q J F L M R X R G J

BLIZZARD
 CLIMATE
 DROUGHT
 FLASHFLOOD
 FOG
 FORECAST
 FROST
 HAIL

HURRICANE
 HUMIDITY
 LIGHTNING
 METEOROLOGIST
 RADAR
 RAIN
 SATELLITE

SLEET
 SNOWSTORM
 SUNSHINE
 THUNDER
 TORNADO
 WARNING
 WATCH



Mailing Address Line 1
Mailing Address Line 2
Mailing Address Line 3
Mailing Address Line 4
Mailing Address Line 5

NATIONAL WEATHER SERVICE, BINGHAMTON, NY

Binghamton Regional Airport
32 Dawes Drive
Johnson City, NY 13790



National Weather Service, Binghamton, NY

Volume 2, Issue 1, Spring 2003

Editor: Joanne M. LaBounty

Comments concerning this publication or questions about the National Weather Service can be directed to:

National Weather Service
Binghamton Regional Airport
32 Dawes Drive
Johnson City, NY 13790

Phone: (607)770-9531
Fax: (607)798-6624
E-mail: david.nicosia@noaa.gov

Home Page on the internet:
www.weather.gov

You can monitor the latest weather conditions around the area, as well as our forecasts on:

NOAA Weather Radio
Operating on the following transmitters:

Binghamton	WXL38	162.475
Syracuse	WXL31	162.550
Scranton	WXL43	162.550
Elmira	WXM31	162.400
Cooperstown	WWH35	162.450
Walton	WWH34	162.425
Stamford	WWF43	162.400
Norwich	KHC49	162.525
Ithaca	WXN-59	162.500
Towanda	WXM95	162.550
Mt. Washington	WXN55	162.450
Call Hill	WXN29	162.425

This newsletter is published for Skywarn Spotters, schools, emergency managers, media, and other interested parties in the county area served by the National Weather Service in Binghamton, NY.

This publication, as well as our forecast products and a host of other weather information, are available on our internet page.

